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Literatur

Afrika

Clist 2005

Bernard-Olivier Clist, *Des premiers villages aux premiers Europeens autour de l'Estuaire du Gabon, Quatre millenaires d'interactions entre l'homme et son milieu*. Dissertation Universität Brüssel (Brüssel 2005).

Denbow 1990

James Denbow, *Congo to Kalahari, Data and hypotheses about the political economy of the western stream of the Early Iron Age*. African Archaeological Review **8** (1990), 139–176.

This paper provides a preliminary account of archaeological research on sites of early pottery-using people in the coastal region of the Congo Republic. The results obtained are compared with observations from Botswana and used to amplify archaeological and linguistic data relevant to the transformations in social and productive forces that occurred across the western part of sub-equatorial Africa during the period when food production, metallurgy and long-distance trade were established. Particular attention is paid to evidence for developing economic and social relations between indigenous foragers and immigrant food producers.

Meister 2010

Conny Meister, *Remarks on Early Iron Age Burial Sites from Southern Cameroon*. African Archaeological Review **27** (2010), 237–249.

For the first time, graves dating to the Early Iron Age between 2000 BP and 1700 BP have been discovered in the southern Cameroonian rain forest. The features in question, from the sites of Akonétye and Campo, were almost identically furnished with iron objects and ceramic pots. Other features with more or less corresponding finds have been discovered at Mouanko-Lobethal, Mouanko-Epolo, Kribi-Mpoengu, and Yaoundé-Obobogo. The spatial distribution of these sites and their near synchronous dating suggest that a particular burial rite was practiced over a considerable area of southern Cameroon during the Early Iron Age.

van Neer 1991

Wim van Neer & Bernard Clist, *Le site de l'Age du Fer Ancien d'Oveng (Province de l'Estuaire, Gabon), analyse de sa faune et de son importance pour la problématique de l'expansion des locuteurs bantu en Afrique Centrale*. Comptes-rendus de l'Académie des Sciences de Paris, série II **312** (1991), 105–105.

The Oveng archaeological site is 12 km north-east of Libreville, Gabon. The analysis of the artefacts and of the stratigraphy permit one to show it was a single-component site dated to c. 1,700 B.P. The artefacts comprise potsherds, iron slag, tewels, abundant marine shells, shell pearls, daga fragments, burned nuts, fish, mammal and reptile bones. Faunal analysis of these shows the village was one of fishermen, whose economy heavily relied on fishing and collecting. Hunting was minimal. This is partially contradictory with commonly held views regarding the early bantuspeakers' economy of Central Africa.

Ngomanda 2011

Alfred Ngomanda, Katharina Neumann Astrid Schweizer & Jean Maley, *Seasonality change and the third millennium BP rainforest crisis in southern Cameroon (Central Africa)*. Quaternary Research **71** (2011), 307–318.

The third millennium BP crisis of the central African rainforest is not sufficiently understood. The low resolution of most pollen profiles and a large plateau of the calibration curve aggravate the exact dating of the event, and its causal climatic parameters are debated. We present a high-resolution pollen profile from the swamp site Nyabessan in the southern Cameroonian rainforest, covering the period 3100-2300 cal yr BP. Between 3100 and 2500 cal yr BP, the climate was favourable for a regional evergreen forest with Caesalpiniaceae and Lophira and a local Raphia swamp forest. Around 2500/2400 cal yr BP, a significant decrease of mature forest and swamp forest taxa and an increase of pioneers indicate that the rain forest was seriously disturbed and replaced by secondary formations. The dominance of Trema orientalis, a pioneer well adapted to seasonal desiccation, points to a much more accentuated seasonality after 2500 cal yr BP, which seems to be linked to a southwards shift of the ITCZ during the northern hemisphere winter months. We propose that the rain forest crisis between 2500 and 2200 cal BP created favourable conditions for farming and paved the way for a major expansion of Bantu speaking populations.

Keywords: Climatic change | Seasonality | ITCZ | pioneer forest | Trema orientalis | Bantu expansion

Aktuell

Cho 2011

Adrian Cho, *From Geneva to Italy Faster Than a Speeding Photon?* science **333** (2011), 1809.

The big question is whether an unidentified "systematic error" in the experiment is making the travel time look artificially short. Chang Kee Jung of Stony Brook University in New York state, who works on a similar experiment in Japan called T2K, says he'd wager that the result is the product of a systematic error in the complex timing, which involves the Global Positioning System, atomic clocks, and masses of electronics. "I wouldn't bet my wife and kids because they'd get mad," Jung says. "But I'd bet my house."

Gophna 2011

Uri Gophna, *The Guts of Dietary Habits*. science **334** (2011), 45–46.

Can dietary intervention change an individual's gut microbiome composition?
Wu et al. then performed a dietary intervention with 10 individuals, all with a Bacteroides enterotype, to examine the shortterm (10 days) effects of nutrition on bacterial communities and enterotypes (see the figure). In agreement with a previous study in mice, changes were detectable within the first 24 hours, testifying to the rapid effects that diet can have on quickly dividing bacteria. Remarkably, however, no stable changes to the Prevotella enterotype were observed in the . ve individuals who were switched to a high-fiber/low-fat diet, although one showed a temporary 1-day switch. Thus, enterotypes appear to reflect long-term nutritional habits, and altering them may require a more prolonged dietary intervention, unless it is preceded by antibiotic treatment, which is usually undesirable.

Reich 2011

Eugenie Samuel Reich, *Speedy neutrinos challenge physicists*. nature **477** (2011), 520.

Experiment under scrutiny as teams prepare to test claim that particles can beat light speed.
Physicists, for the most part, suspect that an unknown systematic error lies behind OPERA's startling result. But nothing obvious has emerged, and many see the experiment as a tour de force because of its high precision. "It is quite a complicated experiment but they did a professional job," says Rob Plunkett, co-spokesman for the MINOS (Main Injector Neutrino Oscillation Search) experiment at Fermilab in Batavia, Illinois, which is likely to investigate the claim.

Saiz-Jimenez 2011

Cesareo Saiz-Jimenez et al., *Paleolithic Art in Peril: Policy and Science Collide at Altamira Cave*. science **334** (2011), 42–43.
s334-0042-Supplement.pdf
Cesareo Saiz-Jimenez, Soledad Cuezva, Valme Jurado, Angel Fernandez-Cortes, Estefania Porca, David Benavente, Juan C. Cañaveras & Sergio Sanchez-Moral
Despite evidence of damaging human impacts, cave paintings may again be threatened if visitors are allowed access.

Sarewitz 2011

Daniel Sarewitz, *The voice of science: let's agree to disagree*. nature **478** (2011), 7.
Consensus reports are the bedrock of science-based policy-making. But disagreement and arguments are more useful, says Daniel Sarewitz.
The very idea that science best expresses its authority through consensus statements is at odds with a vibrant scientific enterprise. Consensus is for textbooks; real science depends for its progress on continual challenges to the current state of always-imperfect knowledge. Science would provide better value to politics if it articulated the broadest set of plausible interpretations, options and perspectives, imagined by the best experts, rather than forcing convergence to an allegedly unified voice.

Vince 2011

Gaia Vince, *An Epoch Debate*. science **334** (2011), 32–37.
There's no dispute that humans are leaving their mark on the planet, but geologists and other scientists are debating whether this imprint is distinctive and enduring enough to designate a new epoch: the Anthropocene.

Wegner 2011

Gary Wegner, *Gravity tested on large scales*. nature **477** (2011), 541–543.
Albert Einstein's general theory of relativity has passed a rigorous test on the scale of galaxy clusters. But the test does not rule out a popular alternative model of gravity.

Wojtak 2011

Radosław Wojtak, Steen H. Hansen & Jens Hjorth, *Gravitational redshift of galaxies in clusters as predicted by general relativity*. nature **477** (2011), 567–569.
n477-0567-Supplement.pdf
The theoretical framework of cosmology ismainly defined by gravity, ofwhichgeneral relativity is the currentmodel.Recent tests of general relativity within the Lambda Cold Dark Matter (LCDM) model have found a concordance between predictions and the observations of the growth rate and clustering of the cosmic web. General relativity has not hitherto been tested on cosmological scales independently of the assumptions of the LCDM model.Here wereport an observation of the gravitational redshift of light coming

fromgalaxies in clusters at the 99 per cent confidence level, based on archival data3. Our measurement agrees with the predictions of general relativity and its modification created to explain cosmic acceleration without the need for dark energy (the f(R) theory), but is inconsistent with alternative models designed to avoid the presence of dark matter.

Wu 2011

Gary D. Wu et al., *Linking Long-Term Dietary Patterns with Gut Microbial Enterotypes*. science **334** (2011), 105–105.

s334-0105-Supplement.pdf, s334-0105-Table01.xlsx, s334-0105-Table02.xlsx, s334-0105-Table03.xls, s334-0105-Table04.xls, s334-0105-Table05.xlsx, s334-0105-Table06.xlsx, s334-0105-Table07.xls, s334-0105-Table08.xls, s334-0105-Table09.xlsx, s334-0105-Table10.xls

Gary D. Wu, Jun Chen, Christian Hoffmann, Kyle Bittinger, Ying-Yu Chen, Sue A. Keilbaugh, Meenakshi Bewtra, Dan Knights, William A. Walters, Rob Knight, Rohini Sinha, Erin Gilroy, Kernika Gupta, Robert Baldassano, Lisa Nessel, Hongzhe Li, Frederic D. Bushman, James D. Lewis

Diet strongly affects human health, partly by modulating gut microbiome composition. We used diet inventories and 16S rDNA sequencing to characterize fecal samples from 98 individuals. Fecal communities clustered into enterotypes distinguished primarily by levels of Bacteroides and Prevotella. Enterotypes were strongly associated with long-term diets, particularly protein and animal fat (Bacteroides) versus carbohydrates (Prevotella). A controlled-feeding study of 10 subjects showed that microbiome composition changed detectably within 24 hours of initiating a high-fat/low-fiber or low-fat/high-fiber diet, but that enterotype identity remained stable during the 10-day study. Thus, alternative enterotype states are associated with long-term diet.

Anthropologie

Abi-Rached 2011

Laurent Abi-Rached et al., *The Shaping of Modern Human Immune Systems by Multiregional Admixture with Archaic Humans*. science **334** (2011), 89–94.

s334-0089-Supplement.pdf

Laurent Abi-Rached, Matthew J. Jobin, Subhash Kulkarni, Alasdair McWhinnie, Klara Dalva, Loren Gragert, Farbod Babrzadeh, Baback Gharizadeh, Ma Luo, Francis A. Plummer, Joshua Kimani, Mary Carrington, Derek Middleton, Raja Rajalingam, Meral Beksac, Steven G. E. Marsh, Martin Maiers, Lisbeth A. Guethlein, Sofia Tavoularis, Ann-Margaret Little, Richard E. Green, Paul J. Norman & Peter Parham

Whole genome comparisons identified introgression from archaic to modern humans. Our analysis of highly polymorphic human leukocyte antigen (HLA) class I, vital immune system components subject to strong balancing selection, shows how modern humans acquired the HLA-B*73 allele in west Asia through admixture with archaic humans called Denisovans, a likely sister group to the Neandertals. Virtual genotyping of Denisovan and Neandertal genomes identified archaic HLA haplotypes carrying functionally distinctive alleles that have introgressed into modern Eurasian and Oceanian populations. These alleles, of which several encode unique or strong ligands for natural killer cell receptors, now represent more than half the HLA alleles of modern Eurasians and also appear to have been later introduced into Africans. Thus, adaptive introgression of archaic alleles has significantly shaped modern human immune systems.

Burger 2007

J. Burger, M. Kirchner, B. Bramanti, W. Haak & M. G. Thomas, *Absence of*

the lactase-persistence-associated allele in early Neolithic Europeans. PNAS **104** (2007), 3736–3741.
Lactase persistence (LP), the dominant Mendelian trait conferring the ability to digest the milk sugar lactose in adults, has risen to high frequency in central and northern Europeans in the last 20,000 years. This trait is likely to have conferred a selective advantage in individuals who consume appreciable amounts of unfermented milk. Some have argued for the "culture-historical hypothesis," whereby LP alleles were rare until the advent of dairying early in the Neolithic but then rose rapidly in frequency under natural selection. Others favor the "reverse cause hypothesis," whereby dairying was adopted in populations with preadaptive high LP allele frequencies. Analysis based on the conservation of lactase gene haplotypes indicates a recent origin and high selection coefficients for LP, although it has not been possible to say whether early Neolithic European populations were lactase persistent at appreciable frequencies. We developed a stepwise strategy for obtaining reliable nuclear ancient DNA from ancient skeletons, based on (i) the selection of skeletons from archaeological sites that showed excellent biomolecular preservation, (ii) obtaining highly reproducible human mitochondrial DNA sequences, and (iii) reliable short tandem repeat (STR) genotypes from the same specimens. By applying this experimental strategy, we have obtained high-confidence LP-associated genotypes from eight Neolithic and one Mesolithic human remains, using a range of strict criteria for ancient DNA work. We did not observe the allele most commonly associated with LP in Europeans, thus providing evidence for the culture-historical hypothesis, and indicating that LP was rare in early European farmers.
ancient DNA | dairying | selection

Izuma 2011

Keise Izuma, Kenji Matsumoto, Colin F. Camerer, & Ralph Adolphs, *Insensitivity to social reputation in autism.* PNAS **108** (2011), 17302–17307.
People act more prosocially when they know they are watched by others, an everyday observation borne out by studies from behavioral economics, social psychology, and cognitive neuroscience. This effect is thought to be mediated by the incentive to improve one's social reputation, a specific and possibly uniquely human motivation that depends on our ability to represent what other people think of us. Here we tested the hypothesis that social reputation effects are selectively impaired in autism, a developmental disorder characterized in part by impairments in reciprocal social interactions but whose underlying cognitive causes remain elusive. When asked to make real charitable donations in the presence or absence of an observer, matched healthy controls donated significantly more in the observer's presence than absence, replicating prior work. By contrast, people with high-functioning autism were not influenced by the presence of an observer at all in this task. However, both groups performed significantly better on a continuous performance task in the presence of an observer, suggesting intact general social facilitation in autism. The results argue that people with autism lack the ability to take into consideration what others think of them and provide further support for specialized neural systems mediating the effects of social reputation.
Asperger syndrome | audience effect | dictator game

Milot 2011

Emmanuel Milot, Francine M. Mayer, Daniel H. Nussey, Mireille Boisvert, Fanie Pelletier & Denis Réale, *Evidence for evolution in response to natural selection in a contemporary human population.* PNAS **108** (2011), 17040–17045.
It is often claimed that modern humans have stopped evolving because cultural and technological advancements have annihilated natural selection. In contrast, recent studies

show that selection can be strong in contemporary populations. However, detecting a response to selection is particularly challenging; previous evidence from wild animals has been criticized for both applying anticonservative statistical tests and failing to consider random genetic drift. Here we study life-history variation in an insular preindustrial French-Canadian population and apply a recently proposed conservative approach to testing microevolutionary responses to selection. As reported for other such societies, natural selection favored an earlier age at first reproduction (AFR) among women. AFR was also highly heritable and genetically correlated to fitness, predicting a microevolutionary change toward earlier reproduction. In agreement with this prediction, AFR declined from about 26-22 y over a 140-y period. Crucially, we uncovered a substantial change in the breeding values for this trait, indicating that the change in AFR largely occurred at the genetic level. Moreover, the genetic trend was higher than expected under the effect of random genetic drift alone. Our results show that microevolution can be detectable over relatively few generations in humans and underscore the need for studies of human demography and reproductive ecology to consider the role of evolutionary processes.
reproductive timing | heritability | Homo sapiens | life-history traits | lifetime reproductive success

Rasmussen 2011

Morten Rasmussen et al., *An Aboriginal Australian Genome Reveals Separate Human Dispersals into Asia*. science **334** (2011), 94–98.
s334-0094-Supplement.pdf
Morten Rasmussen, Xiaosen Guo, Yong Wang, Kirk E. Lohmueller, Simon Rasmussen, Anders Albrechtsen, Line Skotte, Stinus Lindgreen, Mait Metspalu, Thibaut Jombart, Toomas Kivisild, Weiwei Zhai, Anders Eriksson, Andrea Manica, Ludovic Orlando, Francisco M. De La Vega, Silvana Tridico, Ene Metspalu, Kasper Nielsen, María C. IJvila-Arcos, J. Víctor Moreno-Mayar, Craig Muller, Joe Dortch, M. Thomas P. Gilbert, Ole Lund, Agata Wesolowska, Monika Karmin, Lucy A. Weinert, Bo Wang, Jun Li, Shuaishuai Tai, Fei Xiao, Tsunehiko Hanihara, George van Driem, Aashish R. Jha, François-Xavier Ricaut, Peter de Knijff, Andrea B Migliano, Irene Gallego Romero, Karsten Kristiansen, David M. Lambert, Søren Brunak, Peter Forster, Bernd Brinkmann, Olaf Nehlich, Michael Bunce, Michael Richards, Ramneek Gupta, Carlos D. Bustamante, Anders Krogh, Robert A. Foley, Marta M. Lahr, Francois Balloux, Thomas Sicheritz-Pontén, Richard Villems, Rasmus Nielsen, Jun Wang, Eske Willerslev
We present an Aboriginal Australian genomic sequence obtained from a 100-year-old lock of hair donated by an Aboriginal man from southern Western Australia in the early 20th century. We detect no evidence of European admixture and estimate contamination levels to be below 0.5 %. We show that Aboriginal Australians are descendants of an early human dispersal into eastern Asia, possibly 62,000 to 75,000 years ago. This dispersal is separate from the one that gave rise to modern Asians 25,000 to 38,000 years ago. We also find evidence of gene flow between populations of the two dispersal waves prior to the divergence of Native Americans from modern Asian ancestors. Our findings support the hypothesis that present-day Aboriginal Australians descend from the earliest humans to occupy Australia, likely representing one of the oldest continuous populations outside Africa.

Spoor 2011

Fred Spoor, *Malapa and the genus Homo*. nature **478** (2011), 44–45.
Two remarkably well-preserved skeletons of the hominin species Australopithecus sediba, found at Malapa, South Africa, show an intriguing combination of features, and open up a debate about the origins of the genus Homo.

Zaim 2011
Yahdi Zaim et al., *New 1.5 million-year-old Homo erectus maxilla from Sangiran (Central Java, Indonesia)*. Journal of Human Evolution **61** (2011), 363–376.
Yahdi Zaim, Russell L. Ciochon, Joshua M. Polanski, Frederick E. Grine, E. Arthur Bettis III, Yan Rizal, Robert G. Franciscus, Roy R. Larick, Matthew Heizler, Aswan, K. Lindsay Eaves & Hannah E. Marsh
Sangiran (Solo Basin, Central Java, Indonesia) is the singular Homo erectus fossil locale for Early Pleistocene Southeast Asia. Sangiran is the source for more than 80 specimens in deposits with 40Ar/39Ar ages of 1.51–0.9 Ma. In April 2001, we recovered a H. erectus left maxilla fragment (preserving P3-M2) from the Sangiran site of Bapang. The find spot lies at the base of the Bapang Formation type section in cemented gravelly sands traditionally called the Grenzbank Zone. Two meters above the find spot, pumice hornblende has produced an 40Ar/39Ar age of 1.51 ± 0.08 Ma. With the addition of Bpg 2001.04, Sangiran now has five H. erectus maxillae. We compare the new maxilla with homologs representing Sangiran H. erectus, Zhoukoudian H. erectus,Western H. erectus (pooled African and Georgian specimens), and Homo habilis. Greatest contrast is with the Zhoukoudian maxillae, which appear to exhibit a derived pattern of premolar-molar relationships compared to Western and Sangiran H. erectus. The dental patterns suggest distinct demic origins for the earlier H. erectus populations represented at Sangiran and the later population represented at Zhoukoudian. These two east Asian populations, separated by 5000 km and nearly 800 k.yr., may have had separate origins from different African/west Eurasian populations.
Keywords: Southeast Asia; Hominin evolution; Homo habilis; Grenzbank Zone; Bapang formation; Sangiran formation; 40Ar/39Ar dating; Zhoukoudian; Dmanisi

Grundlagen

Droysen 1882
Johann Gustav Droysen, *Grundriß der Historik*. (Leipzig ^{3}1882). <http://digital.ub.uni-duesseldorf.de/ihd/content/titleinfo/2442795>.

Goertz 1995
Hans-Jürgen Goertz, *Umgang mit Geschichte*, *Eine Einführung in die Geschichtstheorie*. Rowohlts Enzyklopädie (Reinbek 1995), 107–117.

Shieh 2011
Albert D. Shieh, Tatsunori B. Hashimoto & Edoardo M. Airoldi, *Tree preserving embedding*. PNAS **108** (2011), 16916–16921.
The goal of dimensionality reduction is to embed high-dimensional data in a low-dimensional space while preserving structure in the data relevant to exploratory data analysis such as clusters. However, existing dimensionality reduction methods often either fail to separate clusters due to the crowding problem or can only separate clusters at a single resolution. We develop a new approach to dimensionality reduction: tree preserving embedding. Our approach uses the topological notion of connectedness to separate clusters at all resolutions. We provide a formal guarantee of cluster separation for our approach that holds for finite samples. Our approach requires no parameters and can handle general types of data, making it easy to use in practice and suggesting new strategies for robust data visualization.
hierarchical clustering | multidimensional scaling

Klima

Sansjofre 2011

P. Sansjofre, M. Ader, R. I. F. Trindade, M. Elie, J. Lyons, P. Cartigny & A. C. R. Nogueira, *A carbon isotope challenge to the snowball Earth*. nature **478** (2011), 93–96.

n478-0093-Supplement.pdf

The snowball Earth hypothesis postulates that the planet was entirely covered by ice for millions of years in the Neoproterozoic era, in a self-enhanced glaciation caused by the high albedo of the ice-covered planet. In a hard-snowball picture, the subsequent rapid unfreezing resulted from an ultra-greenhouse event attributed to the buildup of volcanic carbon dioxide (CO2) during glaciation1. High partial pressures of atmospheric CO2 (pCO2 ; from 20,000 to 90,000 p.p.m.v.) in the aftermath of the Marinoan glaciation (≈635 Myr ago) have been inferred from both boron and triple oxygen isotopes2,3. These pCO2 values are 50 to 225 times higher than present-day levels. Here, we re-evaluate these estimates using paired carbon isotopic data for carbonate layers that cap Neoproterozoic glacial deposits and are considered to record post-glacial sea level rise1. The new data reported here for Brazilian cap carbonates, together with previous ones for time-equivalent units4-8, provide pCO2 estimates lower than 3,200 p.p.m.v.—and possibly as low as the current value of ≈400 p.p.m.v. Our new constraint, and our reinterpretation of the boron and triple oxygen isotope data, provide a completely different picture of the late Neoproterozoic environment, with low atmospheric concentrations of carbon dioxide and oxygen that are inconsistent with a hard-snowball Earth.

Kultur

Farrington 1961

B. Farrington, *Science and the Classics*. nature **191** (1961), 1337–1342.

The circumstances of our age seem to present us with a very real problem which may fittingly be discussed under the title of "Science and the Classics". In response to an international challenge we are engaged in expanding our educational services. The urgent need is for more scientists, more technologists, more engineers. This means a relative, if not an absolute, decline in the study of the humanities. Is this shift in the character of our education good or bad? Is there anything in the claim that the study of the humanities produced a more balanced type of man? Is there in the scientific mode of training any tendency against which it is desirable to be on our guard? I think that there is a tendency among scientists to suppose that the physical world alone is real, and that the very successful methods they have devised for dealing with it are applicable to every aspect of life. This, to my way of thinking, is a dangerous illusion.

Gell-Mann 2011

Murray Gell-Mann & Merritt Ruhlen, *The origin and evolution of word order*. PNAS **108** (2011), 17290–17295.

Recent work in comparative linguistics suggests that all, or almost all, attested human languages may derive from a single earlier language. If that is so, then this language-like nearly all extant languages-most likely had a basic ordering of the subject (S), verb (V), and object (O) in a declarative sentence of the type "the man (S) killed (V) the bear (O)." When one compares the distribution of the existing structural types with the putative phylogenetic tree of human languages, four conclusions may be drawn. (i) The word order in the ancestral language was SOV. (ii) Except for cases of diffusion, the direction of syntactic change, when it occurs, has been for the most part SOV > SVO and, beyond that, SVO > VSO/VOS with a subsequent reversion to SVO occurring

occasionally. Reversion to SOV occurs only through diffusion. (iii) Diffusion, although important, is not the dominant process in the evolution of word order. (iv) The two extremely rare word orders (OVS and OSV) derive directly from SOV.

Nurse 1997

Derek Nurse, *The Contributions of Linguistics to the Study of History in Africa*. Journal of African History **38** (1997), 359–359.

This essay discusses the methods and achievements of historical and comparative linguistics and introduces some new possibilities of potential interest to historians. Its main components are language classification, linguistic reconstruction of past stages and new models of language contact and change. While many historians are familiar with lexicostatistics, most comparative linguists working in Africa today use the longer and better established Comparative Method. This aims to establish relatedness between languages and between them and an ancestor language. It provides historians with a taxonomic framework to test against frameworks from other disciplines. There is no necessary one-to-one relationship between the history of a language and the history of the people who speak it today, nor between a family tree diagram and migrations.

The Comparative Method also aims at reconstructing ancestral languages from which later languages derive. While linguists are able to reconstruct considerable parts of ancestral languages, reconstructed vocabulary for key cultural, economic, political and societal concepts is the most useful component for historians. Reconstruction and classfication have been of most use so far for events from 5000 b.p. to the recent past.

Finally, linguists have recently been inspired by new case studies and by theoretical work outside historical linguistics. The traditional model, with largely static language communities aåected by 'borrowing' deriving from lengthy geographical proximity, is being supplemented by a range of different contact types and of ways in which linguistic material is transferred. And the view that most linguistic change is internal, with other superficial components such as vocabulary being affected from outside, is being replaced by a model that views internal and external change as both important and views linguistic history as an account of the interplay between stasis and change.

Zhang 2011

David D. Zhang, Harry F. Lee, Cong Wang, Baosheng Li, Qing Pei, Jane Zhang & Yulun An, *The causality analysis of climate change and large-scale human crisis*. PNAS **108** (2011), 17296–17301.

Recent studies have shown strong temporal correlations between past climate changes and societal crises.However, the specific causal mechanisms underlying this relation have not been addressed. We explored quantitative responses of 14 fine-grained agro-ecological, socioeconomic, and demographic variables to climate fluctuations from A.D. 1500-1800 in Europe. Results show that cooling from A.D. 1560-1660 caused successive agro-ecological, socioeconomic, and demographic catastrophes, leading to the General Crisis of the Seventeenth Century. We identified a set of causal linkages between climate change and human crisis. Using temperature data and climatedriven economic variables, we simulated the alternation of defined "golden" and "dark" ages in Europe and the NorthernHemisphere during the past millennium. Our findings indicate that climate change was the ultimate cause, and climate-driven economic downturn was the direct cause, of large-scale human crises in preindustrial Europe and the Northern Hemisphere. climate-driven economy | Granger Causality Analysis | grain price

Story or Book

Dyer 2011

Thoraiya Dyer, *Complaints department*, *Reap what you sow.* nature **478** (2011), 280.

Gee 2011

Henry Gee, *Craniums with clout.* nature **478** (2011), 34.

A look at two early human fossils reveals the prejudices in ideas about human evolution, finds Henry Gee.

The Fossil Chronicles: How Two Controversial Discoveries Changed Our View of Human Evolution, Dean Falk, University of California Press: 2011. 280 pp. $34.95

Falk's investigation of Dart's papers at Witwatersrand has brought to light a monograph on A. africanus that Dart never published. In 1929 he sent it to Elliot Smith to submit to the Royal Society in London, but it was rejected, presumably on the basis of reports by the Piltdown Committee. Falk reveals that Dart had come to similar conclusions about the cognitive capacity of A. africanus as she has with H. floresiensis, providing circumstantial evidence for her link between Australopithecus and the Hobbit, and for an earlier African diaspora. Brains might be small, but they can still pack a punch.

Rybicki 2011

Ed Rybicki, *Womanspace*, *Parallel processing.* nature **477** (2011), 626.

At this point I must digress, and mention, for those who are not aware, the profound differences in strategy between Men Going Shopping and Women Going Shopping. In any general shopping situation, men hunt: that is, they go into a complex environment with a few clear objectives, achieve those, and leave. Women, on the other hand, gather: such that any mission to buy just bread and milk could turn into an extended foraging expedition that also snares a to-diefor pair of discounted shoes; a useful new mop; three sorts of new cook-in sauces; and possibly a selection of frozen fish.

Zvan 2011

Stephanie Zvan, *Here be monsters*, *Virtually free.* nature **478** (2011), 148.